



OIIPE

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/080,917

DATE: 07/03/2002 P.c  
TIME: 10:21:26

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\07032002\J080917.raw

```

4 <110> APPLICANT: Cadet, Patrick
5   Stefano, George B.
7 <120> TITLE OF INVENTION: Opiate Receptors
10 <130> FILE REFERENCE: 09598-006001
12 <140> CURRENT APPLICATION NUMBER: US 10/080,917
13 <141> CURRENT FILING DATE: 2002-02-22
15 <150> PRIOR APPLICATION NUMBER: US 60/270,479
16 <151> PRIOR FILING DATE: 2001-02-22
18 <150> PRIOR APPLICATION NUMBER: US 60/336,677
19 <151> PRIOR FILING DATE: 2001-12-05
21 <160> NUMBER OF SEQ ID NOS: 28
23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 81
27 <212> TYPE: DNA
28 <213> ORGANISM: Homo Sapiens
30 <400> SEQUENCE: 1
31 aattattata taattcatag atgttgctgc aataccctc ttatttctca aaagccagtc      60
32 ttgctctggt tctgtgatta a                                     81
34 <210> SEQ ID NO: 2
35 <211> LENGTH: 26
36 <212> TYPE: PRT
37 <213> ORGANISM: Homo Sapiens
39 <220> FEATURE:
40 <223> OTHER INFORMATION: Peptide fragment
42 <400> SEQUENCE: 2
43 Asn Tyr Tyr Ile Ile His Arg Leu Cys Cys Asn Thr Pro Leu Ile Ser
44 1           5           10           15
45 Gln Lys Pro Val Leu Leu Trp Phe Cys Asp
46 20           25
48 <210> SEQ ID NO: 3
49 <211> LENGTH: 262
50 <212> TYPE: DNA
51 <213> ORGANISM: Homo Sapiens
53 <220> FEATURE:
54 <221> NAME/KEY: misc_feature
55 <222> LOCATION: (1)...(262)
56 <223> OTHER INFORMATION: n = A,T,C or G
58 <400> SEQUENCE: 3
59 aattattata taattcatag atgttgctgc aataccctc ttatttctca aaagccagtc      60
60 ttgctctggt tctgtgatta aagagagagg gtgagtgcct tgcccactgt ggtcatggat      120
W--> 61 gcaagatatt cacagaaaat tagcatcata gaaaaaaaaa naaaaaaaaa aaaaaaaaaa      180
W--> 62 ncatgtcggc cgctcggcc aaacatcggg tcgagcatgc atctagggcg gccaatccg      240

```

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```

W--> 63 cccctctccc cccngcnnt tt                                     262
65 <210> SEQ ID NO: 4
66 <211> LENGTH: 945
67 <212> TYPE: DNA
68 <213> ORGANISM: Homo Sapiens
70 <400> SEQUENCE: 4
71 atgaagactg ccaccaacat ctacattttc aaacttgctc tggcagatgc cttagccacc      60
72 agtaccctgc ccttcacagag tgtgaattac ctaatgggaa catggccatt tggaaaccac      120
73 ctttgcaaga tagtgatctc catagattac tataacatgt tcaccagcat attcaccctc      180
74 tgcaccatga gtgttgatcg atacattgca gtctgccacc ctgtcaaggc cttagatttc      240
75 cgtactcccc gaaatgccaa aattatcaat gtctgcaact ggatcctctc ttcagccatt      300
76 ggtcttctctg taatgttcat ggctacaaca aaatacaggc aaggttccat agattgtaca      360
77 ctaacattct ctcatacaac ctggtactgg gaaaacctgc tgaagatctg tgttttcac      420
78 ttgccttca ttaatgccag gtctcattt accgtgtgct atggactgat gatcttgccg      480
79 ctcaagagtg tccgcattgt ctctggctcc aaagaaaagg acaggaatct tcgaaggatc      540
80 accaggatgg tctgtgtgtg ggtggctgtg ttcatcgtct gctggactcc cattcacatt      600
81 tacgtcatca ttaaagcctt ggttacaata ccagaaacta cgttcacagc tgtttcttgg      660
82 cacttctgca ttgtcttagg ttacacaaac agctgctca acccagtcct ttatgcattt      720
83 ctggatgaaa acttcaaaag atgttcaga gagttctgta tcccaacctc ttccaaacatt      780
84 gagcaacaaa actccactcg aattcgtcag aacactagag accacccctc caggcccaat      840
85 aaagtggata gaactaatca tcagaattat tatataatc atagatgttg ctgcaatacc      900
86 cctcttattt ctcaaaagcc agtcttgctc tggttctgtg attaa                      945
88 <210> SEQ ID NO: 5
89 <211> LENGTH: 314
90 <212> TYPE: PRT
91 <213> ORGANISM: Homo Sapiens
93 <400> SEQUENCE: 5
94 Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp
95 1 5 10 15
96 Ala Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Val Asn Tyr Leu Met
97 20 25 30
98 Gly Thr Trp Pro Phe Gly Thr Ile Leu Cys Lys Ile Val Ile Ser Ile
99 35 40 45
100 Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Cys Thr Met Ser
101 50 55 60
102 Val Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu Asp Phe
103 65 70 75 80
104 Arg Thr Pro Arg Asn Ala Lys Ile Ile Asn Val Cys Asn Trp Ile Leu
105 85 90 95
106 Ser Ser Ala Ile Gly Leu Pro Val Met Phe Met Ala Thr Thr Lys Tyr
107 100 105 110
108 Arg Gln Gly Ser Ile Asp Cys Thr Leu Thr Phe Ser His Pro Thr Trp
109 115 120 125
110 Tyr Trp Glu Asn Leu Leu Lys Ile Cys Val Phe Ile Phe Ala Phe Ile
111 130 135 140
112 Met Pro Val Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Ile Leu Arg
113 145 150 155 160
114 Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu Lys Asp Arg Asn
115 165 170 175

```

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```

116 Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Val Ala Val Phe Ile
117          180          185          190
118 Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile Lys Ala Leu Val
119          195          200          205
120 Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp His Phe Cys Ile
121          210          215          220
122 Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val Leu Tyr Ala Phe
123 225          230          235          240
124 Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe Cys Ile Pro Thr
125          245          250          255
126 Ser Ser Asn Ile Glu Gln Gln Asn Ser Thr Arg Ile Arg Gln Asn Thr
127          260          265          270
128 Arg Asp His Pro Ser Thr Ala Asn Thr Val Asp Arg Thr Asn His Gln
129          275          280          285
130 Asn Tyr Tyr Ile Ile His Arg Leu Cys Cys Asn Thr Pro Leu Ile Ser
131          290          295          300
132 Gln Lys Pro Val Leu Leu Trp Phe Cys Asp
133 305          310

```

135 &lt;210&gt; SEQ ID NO: 6

136 &lt;211&gt; LENGTH: 1431

137 &lt;212&gt; TYPE: DNA

138 &lt;213&gt; ORGANISM: Homo Sapiens

140 &lt;400&gt; SEQUENCE: 6

```

141 atgtacagatg ctacagctcgg tccctctcgc ctgacgctcc tctctgtctc agccaggact.      60
142 ggtttctgtg agaaacagca ggagctgtgg cagcggcgaa aggaagcggc tgaggcgctt      120
143 ggaacccgaa aagtctcggg gctcctggct acctcgacac gccgtgcccg cccggccgtc      180
144 agtacccatg acagcagcgc tgcctccacg aacgccagca attgcactga tgccttgggc      240
145 tactcaagtt gctcccccgc acccagccccc ggttccctggg tcaacttgtc ccaacttagat      300
146 ggcacccctg ccgacccatg cggctccgaac cgcaccgacc tgggcgggag agacagcctg      360
147 tgcctcccca ccggcagctc ctccatgata acggccatca cgatcatggc cctctactcc      420
148 atcgtgtgct tgggtgggct ctccggaaac ttcttggtca tgtatgtgat tgtcagatac      480
149 accaagatga agactgccac caacatctac attttcaacc ttgctctggc agatgcctta      540
150 gccaccagta cctgcctctt ccagagtgtg aattacctaa tgggaacatg gccatttgga      600
151 accatccttt gcaagatagt gatctccata gattactata acatgttcac cagcatatcc      660
152 accctctgca ccatgagtgt tgatcgatac attgcagtct gccacctgt caaggcctta      720
153 gatttccgta ctcccccga a tgcacaaatt atcaatgtct gcaactggat cctctcttca      780
154 gccattggtc ttctgttaat gttcatggct acaacaaaat acaggcaagg ttccatagat      840
155 tqtacactaa cattctctca tccaacctgg tactgggaaa acctgctgaa gatctgtgtt      900
156 ttcatcttcc ccttcattat gccagtgtct atcattaccg tgtgctatgg actgatgata      960
157 ttgcacctca agagtgtccg catgtctctt ggctccaaag aaaaggacag gaatcttoga      1020
158 aqgacacca ggtatgtgtt ggtgtgtgtg gctgtgttca tegtctgctg gaactccatt      1080
159 cacatttacg tcatcattaa agccttggtt acaatcccag aaactacgtt ccagactggt      1140
160 tcttggaact tctgcattgc tctaggttac acaaacagct gctcaacccc agtcccttat      1200
161 caatttctgg atgaaaactt caaacgatgc ttccagagat tctgtatccc aacctcttcc      1260
162 aacattgagc aacaaaaact cactgaatt cgtcagaaca ctgagacca cccctccacg      1320
163 gccaatcacg tggatagaac taatcatcag aattattata taattcatag atgttgctgc      1380
164 aatacccttc ttatttctca aaagccagtc ttgctctggt tctgtgatta a      1431

```

166 &lt;210&gt; SEQ ID NO: 7

167 &lt;211&gt; LENGTH: 476

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168 &lt;212&gt; TYPE: PRT

169 &lt;213&gt; ORGANISM: Homo Sapiens

171 &lt;400&gt; SEQUENCE: 7

```

172 Met Ser Asp Ala Gln Leu Gly Pro Leu Arg Leu Thr Leu Leu Ser Val
173 1 5 10 15
174 Ser Ala Arg Thr Gly Phe Cys Lys Lys Gln Gln Glu Leu Trp Gln Arg
175 20 25 30
176 Arg Lys Glu Ala Ala Glu Ala Leu Gly Thr Arg Lys Val Ser Val Leu
177 35 40 45
178 Leu Ala Thr Ser His Ser Gly Ala Arg Pro Ala Val Ser Thr Met Asp
179 50 55 60
180 Ser Ser Ala Ala Pro Thr Asn Ala Ser Asn Cys Thr Asp Ala Leu Ala
181 65 70 75 80
182 Tyr Ser Ser Cys Ser Pro Ala Pro Ser Pro Gly Ser Trp Val Asn Leu
183 85 90 95
184 Ser His Leu Asp Gly Asn Leu Ser Asp Pro Cys Gly Pro Asn Arg Thr
185 100 105 110
186 Asp Leu Gly Gly Arg Asp Ser Leu Cys Pro Pro Thr Gly Ser Pro Ser
187 115 120 125
188 Met Ile Thr Ala Ile Thr Ile Met Ala Leu Tyr Ser Ile Val Cys Val
189 130 135 140
190 Val Gly Leu Phe Gly Asn Phe Leu Val Met Tyr Val Ile Val Arg Tyr
191 145 150 155 160
192 Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu
193 165 170 175
194 Ala Asp Ala Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Val Asn Tyr
195 180 185 190
196 Leu Met Gly Thr Trp Pro Phe Gly Thr Ile Leu Cys Lys Ile Val Ile
197 195 200 205
198 Ser Ile Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Cys Thr
199 210 215 220
200 Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu
201 225 230 235 240
202 Asp Phe Arg Thr Pro Arg Asn Ala Lys Ile Ile Asn Val Cys Asn Trp
203 245 250 255
204 Ile Leu Ser Ser Ala Ile Gly Leu Pro Val Met Phe Met Ala Thr Thr
205 260 265 270
206 Lys Tyr Arg Gln Gly Ser Ile Asp Cys Thr Leu Thr Phe Ser His Pro
207 275 280 285
208 Thr Trp Tyr Trp Glu Asn Leu Leu Lys Ile Cys Val Phe Ile Phe Ala
209 290 295 300
210 Phe Ile Met Pro Val Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Ile
211 305 310 315 320
212 Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu Lys Asp
213 325 330 335
214 Arg Asn Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Val Ala Val
215 340 345 350
216 Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile Lys Ala
217 355 360 365

```

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```

218 Leu Val Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp His Phe
219      370      375      380
220 Cys Ile Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val Leu Tyr
221 385      390      395      400
222 Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe Cys Ile
223      405      410      415
224 Pro Thr Ser Ser Asn Ile Glu Gln Gln Asn Ser Thr Arg Ile Arg Gln
225      420      425      430
226 Asn Thr Arg Asp His Pro Ser Thr Ala Asn Thr Val Asp Arg Thr Asn
227      435      440      445
228 His Gln Asn Tyr Tyr Ile Ile His Arg Leu Cys Cys Asn Thr Pro Leu
229      450      455      460
230 Ile Ser Gln Lys Pro Val Leu Leu Trp Phe Cys Asp
231 465      470      475

```

233 &lt;210&gt; SEQ ID NO: 8

234 &lt;211&gt; LENGTH: 1245

235 &lt;212&gt; TYPE: DNA

236 &lt;213&gt; ORGANISM: Homo Sapiens

238 &lt;400&gt; SEQUENCE: 8

```

239 atggacagca ggcgtgcccc caagaaagcc agcaattgca ctgatgcctt ggcgtactca      60
240 agttgctccc cagcaaccag ccccggttcc tgggtcaact tgtcccactt agatggcaac      120
241 ctgtccgacc catgcggtcc gaaccgcacc gacctgggcg ggagagacag cctgtgccct      180
242 ccgaccggca gtccctccat gatcaaggcc atcagcatca tggccctcta ctccatcgtg      240
243 tgcgtggtgg ggcctctcgg aaacttctct gtcatgtatg tgattgtcag atacaccaag      300
244 atgaagactg ccaccaacat ctacattttc aaccttgctc tggcagatgc cttagccacc      360
245 aqtaccctgc ccttccagag tgtgaattac ctaatgggaa catggccatt tggaaaccctc      420
246 ctttgcaaga tagtgatctc catagattac tataacatgt tcaccagcat attcaccctc      480
247 tgcaccatga gtgttgatcg atacattgca gtctgccacc ctgtcaaggc cttagatttc      540
248 cgtactcccc gaaatgccaa aattatcaat gtctgcaact ggtacctctc ttcagccatt      600
249 ggtcttctct taatgttcat ggtacaaca aaatacaggc aaggttccat agattgtaca      660
250 ctaacattct ctcatccaac ctggtactgg gaaaacctgc tgaagatctg tgttttcac      720
251 ttgccttcca ttatgccagt gctcaccatt accgtgtgct atggactgat gatcttgcc      780
252 ctcaagagtg tccgcattgt ctctggctcc aaagaaaagg acaggaatct tcgaaggatc      840
253 accaggatgg tgcgtggtgt ggtggctgtg ttcacgtct gctggactcc cattcacatt      900
254 tacgtcatca ttaaagcctt ggttacaate ccagaaacta cgttccagac tgtttcttgg      960
255 caattctgca ttgctctagg ttacacaaac agctgcctca acccagtcct ttatgcattt      1020
256 ctggatgaaa acttcaaaag atgcttcaga gagttctgta tcccaacctc ttccaacatt      1080
257 gagcaacaaa actccactcg aattcgtcag aacactagag accaccctc caccggccat      1140
258 acagtggata gaactaatca tcagaattat tatataattc atagatgttg ctgcaatacc      1200
259 cctcttattt ctcaaaaagg agtcttgctc tggttctgtg attaa      1245

```

261 &lt;210&gt; SEQ ID NO: 9

262 &lt;211&gt; LENGTH: 414

263 &lt;212&gt; TYPE: PRT

264 &lt;213&gt; ORGANISM: Homo Sapiens

266 &lt;400&gt; SEQUENCE: 9

```

267 Met Asp Ser Ser Ala Ala Pro Thr Asn Ala Ser Asn Cys Thr Asp Ala
268 1      5      10      15
269 Leu Ala Tyr Ser Ser Cys Ser Pro Ala Pro Ser Pro Gly Ser Trp Val
270      20      25      30

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/080,917

DATE: 07/03/2002  
TIME: 10:21:27

Input Set : A:\Seqlist.txt  
Output Set: N:\CRF3\07032002\J080917.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 160,161,162,181,255,258,259  
Seq#:21; N Pos. 533,808,809,810,829,903,906,907  
Seq#:22; N Pos. 112  
Seq#:23; N Pos. 1091,1366,1367,1368,1387,1461,1464,1465

## VERIFICATION SUMMARY

DATE: 07/03/2002

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Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\07032002\J080917.raw

L:61 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:120  
L:62 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:180  
L:63 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:240  
L:580 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:480  
L:585 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:780  
L:587 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:900  
L:601 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:60  
L:634 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:1080  
L:638 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:1320  
L:639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:1380  
L:640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:1440